THE TEXTILE ASSOCIATION [INDIA]
A.T.A PART-II NEW 3 YEARS EXAMINATION-2016
PART-A 2.2
PRINCIPLES OF FABRIC MANUFACTURE

Date: 24.12.2016 Marks: 100 Time: 02.00 pm to 05.00 pm

Instructions:
1. Attempt any Six Questions out of which Q.1 is compulsory.
2. Answer each next main question on a new page
3. Figure to the right indicates full marks.
4. Illustrate your answers with sketches and flow charts wherever necessary.
5. Use of non programmable electronic pocket calculator permissible.
6. Mobile and any other communication devices are not allowed in exam hall.
7. Assume suitable data wherever necessary.

Q.1 a) Mark the statement with true or false
   i. In case of precision winding wind per double traverse remains constant
   ii. Speed of modern autoconer machine is 200 mpm
   iii. Slub catcher removes yarn stain
   iv. Sizing process increases the weaveability of yarn
   v. Selvedges are protected during weaving by shedding motion

   b) Fill in the blanks
   i. In super high speed warping machine, _______ type of creel is used
   ii. 20 Ne = _______ tex
   iii. Disc type of tensioner is used in _______ winding machine
   iv. Speed of modern high speed sectional warping machine is appx _______
   v. Back rest is a part of _______

   c) Write down the short answers for the following -
   i. What do you understand by Drawing-in process?
   ii. What are the difference in between side & centre weft fork motion?
   iii. Define the reed count?
   iv. What is the role of Draft and peg plan in designing?
   v. State the uses of sectional warping machine?
Q.2  a) Describe the working principle of modern autocutter.  
    b) A sleeve of 100mm traverse length is wound on a winding machine equipped with 50 
    mm diameter drum with 3 crossing. Calculate the approximate winding speed if the drum rotates 
    at 3000 rpm.

Q.3  a) Describe the line diagram the passage of yarn through direct warping machine.  
    b) Calculate the approximate weight of yarn in the warper’s beam in kg if length of warp 
    is 10000 meter, count of warp yarn is 30 Ne & total end is 7000.

Q.4  a) What are the characteristic properties of a good sizing ingredient? Discuss various 
    sizing ingredients along with their functions.  
    b) Describe the features of the multi cylinder sizing machine.

Q.5  a) What do you mean by rewound weft? Discuss it with the reference of weft winding 
    machine  
    b) Discuss about the similarities and differences between tappet, doby & jacquard 
    shedding

Q.6  a) Explain the yarn numbering system.  
    b) Calculate the average count of 80’s, 60’s, 40’s and 20’s cotton yarn

Q.7. Draw the following designs with the draft & peg plan

   a. 3/1 Twill  
   b. 5 end satin  
   c. 2×2 matt  
   d. warp rib

Q.8 Write the short notes on (4×4)
   a) Sley eccentricity  
   b) Knotting operation  
   c) Temple  
   d) Drop box motion